On the "Source Zone" of the Earth's Crust, the "Magmatogene   SOV/11-59-3-1/17
Crown" of the Earth, the "Areals of Magmatism" and "Structural
Associations of Intrusives"

consider the Earth's crust to be 100 km thick.
U. Bukher even proposes that the term "crust" be
replaced by "astenosphere". From all these premises,
a basically new solution to the problem on the zo-
nality of the Earth arises. Many contemporary hypo-
theses on the problems of magmatism and the origin
of the sial layer converge in one problem of the ra-
dial differentiation of the solid inclosure. Numer-
ous geologists, geophysicists and geochemists agree
to the 100-km depth as being one of the most import-
ant demarcation lines. V.A. Magnitskiy points out
that the depth of 60 km can be taken as the lower
limit for normal earthquakes. Experiments by Ye.A.
Rozova in Central Asia and also others in different
regions show that a layer with particular properties
is in depths from 60-80 km. There are almost no
earthquakes at these levels. Interesting data on
the electric properties of the Earth's envelopes,

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On the "Source Zone" of the Earth's Crust, the "Mamatogene
Crown" of the Earth, the "Areals of Magmatism" and "Structural
Associations of Intrusives"

furnished by A.P. Karev, are briefly dealt with. Each
of the different-aged "magmatogenous crowns" is cha-
racterized by vertical zonality; it has at least 3
structural-genetic zones: 1) crustal; 2) intermediate
(or stem); 3) frontal (upper level of magmatism).
Details on the individual zones are provided in the
article. Peculiarities of magmatism areals are de-
monstrated most conspicuously through intrusive magma-
tism. As an example, reference is made to the areals
of intrusive magmatism in the Altay-Sayan region..
A regional geotectonic zonality exists in the Altay-
Sayan region. Details on this are furnished. The
structural associations of intrusives are various and
can be divided into 2 large groups, each of which can
again be subdivided with reference to density (struc-
tural associations of small, medium and high density),
Card 4/7   character of combinations of intrusives, etc. An

Card 2/7   V. N. Lodgochnikov ... linear structural type. The chart
trusives are here widely developed. Feathered types,
partly similar to the so-called "horse-tails", have
developed in the Kuznetskiy Alatau, Western Sayan and
Eastern Sayan. The author presents the hypothesis of
differentiation of geo   associations of in-
integrally equilibrated within the limits of the   types:
stressed mass, which as a result will deform regard-
less of its heterogeneity as a compact medium; 2)
differentially equilibrated within the limits of in-
Card 5/7   dividual volumes of the stressed mass which as a re-
sult, will endure a non-homogenous deformation as an

SOV/11-59-3-1/17

On the "Source Zone" of the Earth's Crust, the "Magmatogene Crust" of the Earth, the "Areals of Magmatism" and "Structural Associations of Intrusives"

anisotropic medium. One of the variants compiled by the elementary and very approximate morphological scheme of structural associations of trappean intrusives on the given territory is given. The mechanical stress affects the flow of physico-chemical processes in the stressed mass. This was also fully realized by such scientists as M.A. Usov, and P.N. Kropotkin. Apparently, the larger the regional and compact structural associations of intrusives, the more they reflect the structural pattern of the source zone of the Earth's crust, its physico-chemical conditions and its internal spatial differentiation, in particular, turns sometimes up in form of regional structural associations of intrusives which are characteristic of intrusives of determined petrographical types. There are 4 maps and 17 references,

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SOV/11-59-3-1/17

On the "Source Zone" of the Earth's Crust, the "Magmatogene Crown" of the Earth, the "Areals of Magmatism" and "Structural Associations of Intrusives"

16 of which are Soviet and 1 English.

ASSOCIATION: Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR g. Novosibirsk (Institute of Geology and Geophysics of the Siberian Department of the AS USSR, Novosibirsk.

SUBMITTED: July 29, 1957

Card 7/7

POSPELOV, G.L.

"Focal zone" of the earth's crust, "magmatogenic corona" of the earth, "magmatic ranges" and "structural associations of intrusions." Izv.AN SSSR.Ser.geol. 24 no.3:19-35 Mr '59.
(MIRA 12:4)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, g. Novosibirsk.

(Earth--Internal structure)

POSPELOV, G.L.

PHASE I BOOK EXPLOITATION   SOV/3325

International Geological Congress. 21st, Copenhagen, 1960.

Granito-gneysy (Gneissose Granites) Kiyev, Izd-vo AN UkrSSR, 1960. 174 p. 1,000 copies printed. (Series: Doklady sovetskikh geologov, problema 14) Added t. p. in English.

Sponsoring Agency: Akademiya nauk Soyuza SSR. Akademiya nauk Ukrainskoy SSR. Ministerstvo geologii i okhrany nedr SSSR. Natsional'nyy komitet geologov Sovetskogo Soyuza.

Editorial Board: Resp. Eds.: N.P. Semenenko, D.S. Korzhinskiy, and G.D. Afanas'yev; Ed. of Publishing House: V.N. Zaviryukhina; Tech. Ed.: L.L. Matveychuk.

PURPOSE: This book is intended for geologists and petrographers, as well as students of geology at schools of higher education.

COVERAGE: The book contains 13 articles representing the reports given by Soviet scientists at the 21st Session of the International Geological Congress. The individual reports deal with theoretical problems of metamorphism and inter-action of magmatic masses, formation of granites, magmatic replacement in sub-effusive facies, formation of scarns, and paragenetic analysis. Representatives of the following scientific institutions participated in the work: D.S. Kor-zhinskiy and V.A. Zharikov, of IGEM (Institute of Geology of Mineral Deposits, Petrography, and Geochemistry AS USSR); V.V. Tikhomirov, of the Institut geo-logii AN SSSR (Institute of Geology AS USSR); N.G. Sudovikov, Laboratoriya problem dokembriya (Laboratory of Precambrian Problems); E.P. Semenenko, B.I. Siroshtan, N.I. Polovko, Ya. N. Belevtsev, and A.I. Strygin of the Institut geologicheskikh nauk AN UkrSSR (Institute of Geological Sciences AS UkrSSR); V.S. Sobolev of the Institut geologii polasnykh iskopayemykh AN UkrSSR (Institute of Geology of Minerals AS UkrSSR) and L'vovskiy gosudarstvenny universitet (L'vov State University); G.M. Zaridze, and N.F. Tatrishvili of the Geologicheskiy institut AN Gruzinskoy SSR (Geological Institute AS GruzSSR); G.L. Pospelov, Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR (Institute of Geology and Geophysics of the Siberian Department of the AS USSR); M.A. Govorov of the Dal'nevostochny filial AN SSSR (Far Eastern Branch of the AS USSR); and I.P. Trusova, of the Moskovskiy geologorazvedochnyy institut (Moscow Institute for Geological Exploration). An English resume accompanies each article. References follow individual articles.

Zharikov, V.A. Magmatic Replacement of Carbonate Formations   34

Polovko, N.I. Principles of the Classification and Grade of Ferrosiliceous Rock Metamorphism in the Ukraine   68

Govorov, I.N. The Greisening of Carbonate Rocks   80

Sudovikov, N.G. Granites and Ore Formation   97

Tikhomirov, V.V. The Development of the Earth's Crust and the Significance of Metasomatosis in This Process   107

Zaridze, G.M., and N.F. Tatrishvili. The Stages of Metasomatosis   127

Pospelov, G.L. The Phenomena of Magmatic Replacement in the Subeffusive Facies and the Subeffusive Stages of Development of Magmatic Complexes in Western Siberia   140

Trusova, I.P. Granitization and Metamorphism of Precambrian Formations in Central Kazakhstan   154

Belevtsev, Ya.M., and A.I. Strygin. Granitization of the Rocks of an Iron-ore formation and the Genesis of Ores (as illustrated by the Iron-Ore Deposits of the Ukraine)   168

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POSPELOV, G.L.

Nature of geology as a science and its place in natural history.
Izv. AN SSSR. Ser. geol. 25 no.11:3-19 N '60.   (MIRA 13:11)

1. Sibirskoye otdeleniye AN SSSR, Novosibirsk.
              (Geology)

SHAKHOV, Feliks Nikolayevich; POSPELOV, G.L., otv. red.; BANKVITSER, A.L.,
red. izd-va; NIKOLAYEVA, I.N., red. izd-va; BRUZGUL', V.V., tekhn.
red.

[Structures of ores] Tekstury rud. Moskva, Izd-vo Akad. nauk SSSR,
1961. 178 p.   (MIRA 14:8)

(Ores)

POSPELOV, G.L.; KAUSHANSKAYA, P.I.; LAPIN, S.S.

Genesis of vein-type and breccia-type mineral formations outside
fissures. Geol. rud. mestorozh. no.2:45-56 Mr-Ap '61.
                                              (MIRA 14:5)

1. Sibirskoye otdeleniye AN SSSR.
                     (Mineralogical chemistry)

KAZARINOV, V.P.; KAS'YANOV, M.V.; KOSYGIN, Yu.A.; POSPELOV, G.L.; SAKS, V.N.;
     SOBOLEV, V.S.; SOKOLOV, B.S.; FOTIADI, E.E.; YANSHIN, A.L.

     Academician Andrei Alekseevich Trofimuk; on his 50th birthday.
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POSPELOV, G.L.; KAUSHANSKAYA, P.I.; SARATOVKIN, D.D.

Formation of crystalline "veins-walls" at the frontal encounter of the diffusion of reagents. Zap. Vses.min.ob-va 90 no.4:382-390 '61.
(MIRA 14:9)

1. Sibirskoye otdeleniye AN SSSR.
(Crystals--Growth) (Diffusion)

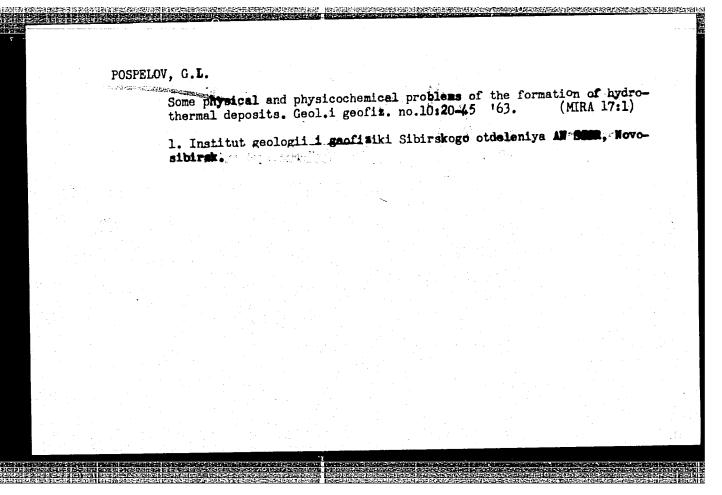POSPELOV, G. L.; KAUSHANSKAYA, P. I.

Stages in the development and types of fissure-free vein forma-
tion; moedling of stockwork ore deposits. Geol. i geofiz. no.9:
41-47 '62.   (MIRA 15:10)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

(Ore deposits)

ALADYSHKIN, A.S.; VASIL'KOVSKIY, N.P.; VINKMAN, M.K.; GINTSINGER, A.B.;
    GURARI, F.G.; KARPINSKIY, R.B.; KRASIL'NIKOV, B.N.; KRASNOV,
    V.I.; KRIVENKO, A.P.; LUCHITSKIY, I.V.; PAN, F.Ya.; PETROV,
    P.A.; POSPELOV, G.L.; SENNIKOV, V.M.; CHAIRKIN, V.M.;
    SHCHEGLOV, A.P.

In memory of Andrei Aleksandrovich Predtechenskii, 1909-
1964. Geol. i geofiz. no.4:197-199 '65.   (MIRA 18:8)

POSPELOV, G.L.

Some physical and physicochemical problems of the formation of hydro-
thermal deposits. Geol.i geofiz. no.10:20-45 '63.   (MIRA 17:1)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novo-
sibirsk.

POSPELOV, G.L.

Structure and development of the flow of hydrothermal ore-forming
systems. Geol. i geofiz. no.11:28-40 '62.   (MIRA 16:3)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.
            (Water, Underground)   (Ore deposits)

DYMKIN, Aleksandr Mikhaylovich; POSPELOV, G.L., kand. geol.-miner.
        nauk, otv. red.; OMBYSH-KUZNETSOV, S.O., red.; VYALYKH,
        A.M., tekhn. red.; LOKSHINA, O.A., tekhn. red.

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        the Main run in Turgay]Kontaktovo-metasomaticheskie mesto-
        rozhdeniia zheleza iuzhnoi chasti Glavnoi rudnoi polosy
        Turgaia. Novisibirsk, Izd-vo Sibirskogo otd-niia AN SSSR,
        1962. 236 p.   (MIRA 16:4)
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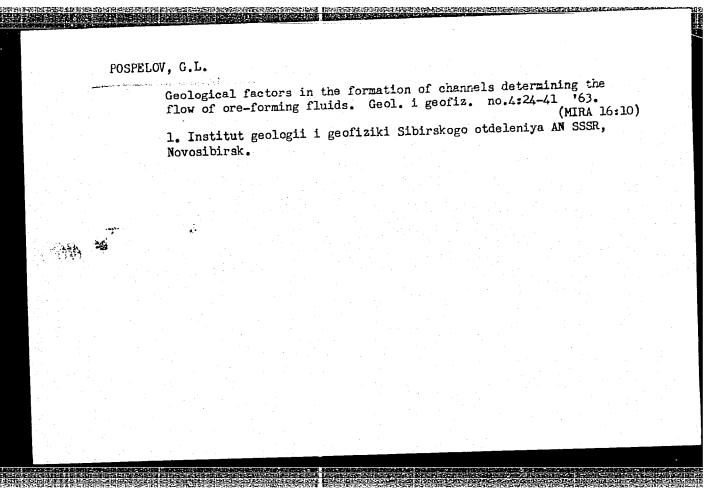
POSPELOV, G.L.

Structure and development of seeping hydrothermal ore-forming systems.
Geol. i geofiz. no.12:40-57 '62.   (MIRA 16:3)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.   (Seepage)   (Ore deposits)

POSPELOV, G.L.

Geological factors in the formation of channels determining the
flow of ore-forming fluids. Geol. i geofiz. no.4:24-41 '63.
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1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

VOLOKHOV, I.M.; DOVGAL', V.N.; KOSYGIN, Yu.A.; KUZNETSOV, V.A.;
LUCHITSKIY, I.V.; POSPELOV, G.L.; POLYAKOV, G.V.; PINUS, G.V.;
SOBOLEV, V.S.; TROFIMUK, A.A.; SHAKHOV, F.N.

Professor IUrii Alekseevich Kuznetsov, Corresponding Member of the
Academy of Sciences of the U.S.S.R.; on his 60th birthday. Geol.
i geofiz. no.4:135-140 '63.   (MIRA 16:10)

POSPELOV, G.N., agronom (Tashkent)

Fumigation unit in Uzbekistan. Zashch. rast. ot vred. i bol. 8
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POSPELOV, G. N.

Gogol', Nikolai Vasil'evich

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9. Monthly List of Russian Accessions, Library of Congress, ___August___ 195_? Uncl.

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Approximate Temporary Characteristics of Linear Systems of Automatic
Regulation," Avtomatika i telemekhanika, 1953, Volume XIV, No 6,
Pages 675-689, 4 tables, 3 illustrations; bibliography, 5 items.
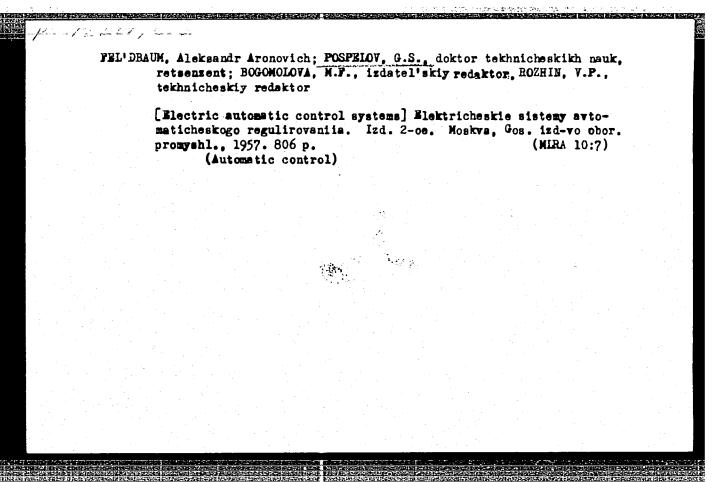
POSPELOV, G.S.

KRASOVSKIY, A.A.(Moskva); POSPELOV, G.S.(Moskva).

Calculating approximate time characteristics of linear automatic
control systems. Avtom. i telem. 14 no.6:675-689 N-D '53.
(MIRA 10:3)

(Automatic control)

POSPELOV G. S.

SOLODOVNIKOV, V.V.; professor, doktor tekhnicheskikh nauk, redaktor;
AYZERMAN, M.A., doktor tekhnicheskikh nauk; BASHKIROV, D.A., kandidat
tekhnicheskikh nauk; BROMBERG, P.V., kandidat tekhnicheskikh nauk;
VORONOV, A.A., kandidat tekhnicheskikh nauk, dotsent; GOL'DFARB, L.S.,
doktor tekhnicheskikh nauk, professor; KAZAKEVICH, V.V., doktor tekh-
nicheskikh nauk; KRASOVSKIY, A.A., kandidat tekhnicheskikh nauk,
dotsent; LERNER, A.Ya., kandidat tekhnicheskikh nauk; LETOV, A.M.,
doktor fiziko-matematicheskikh nauk; professor; MATVEYEV, P.S.,
inzhener; MIKHAYLOV, F.A., kandidat tekhnicheskikh nauk; PETROV, B.N.;
PETROV, V.V., kandidat tekhnicheskikh nauk; POSPELOV, G.S., kandidat
tekhnicheskikh nauk, dotsent; TOPCHEYEV, Yu.I., inzhener; ULANOV,
G.M., kandidat tekhnicheskikh nauk; KHRAMOY, A.V., kandidat tekhni-
cheskikh nauk; TSYPKIN, Ya.Z. doktor tekhnicheskikh nauk, professor;
LOSSIYEVSKIY, V.L., doktor tekhnicheskikh nauk, professor, retsenzent;
TIKHONOV, A.Ya., tekhnicheskiy redaktor

[Fundamentals of automatic control; theory] Osnovy avtomaticheskogo
regulirovaniia; teoriia. Moskva, Gos. nauchno-tekhn. izd-vo mashino-
stroit. lit-ry, 1954. 1116 p.   (MLRA 8:2)

1. Chlen-korrespondent AN SSSR (for Petrov, B.N.)
     (Automatic control)

FEL'DBAUM, Aleksandr Aronovich; POSPELOV, G.S., doktor tekhnicheskikh nauk,
    retsenzent; BOGOMOLOVA, M.F., izdatel'skiy redaktor, ROZHIN, V.P.,
    tekhnicheskiy redaktor

    [Electric automatic control systems] Elektricheskie sistemy avto-
    maticheskogo regulirovaniia. Izd. 2-oe. Moskva, Gos. izd-vo obor.
    promyshl., 1957. 806 p.   (MIRA 10:7)
         (Automatic control)

Prospectus

PHASE I BOOK EXPLOITATION SOV/4526

Soveshchaniye po teorii invariantnosti i yeye primeneniyu v avtomaticheskikh ustroystvakh. Kiyev, 1958

Teoriya invariantnosti i yeye primeneniye v avtomaticheskikh ustroystvakh; trudy soveshchaniya (Theory of Invariance and Its Application to Automatic Devices; Transactions of the Conference Oct. 14-20, 1958) Moscow, 1959. 381 p. No. of copies printed not given.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Otdeleniye tekhnicheskikh nauk.

Resp. Ed.: V.S. Kulebakin, Academician; Editorial Commission: Ya.N. Roitenberg, Doctor of Technical Sciences, A.G. Ivakhnenko, Doctor of Technical Sciences, A.Yu. Ishlinskiy, Academician, Academy of Sciences UkrSSR, M.A. Lavrent'yev, Candidate of Technical Sciences, P.I. Kuznetsov, Doctor of Physics and Mathematics, A.I. Kukhtenko, Doctor of Technical Sciences, B.N. Petrov, Corresponding Member, Academy of Sciences USSR, Ye.P. Popov, Doctor of Technical Sciences, G.M. Ulanov, Doctor of Technical Sciences, L.K. Tkacov, Academician, Academy of Sciences UkrSSR, P.I. Chinayev, Candidate of Technical Sciences, and N.N. Churaev, Candidate of Technical Sciences; Tech. Ed.: G.V. Engler.

PURPOSE: This collection of papers is intended for engineers and other specialists working in various fields of automation.

COVERAGE: The collection includes reports and papers presented at the Conference on the Theory of Invariance and its Application to Automatic Devices, which was called by the Otdeleniye tekhnicheskikh nauk (Department of Technical Sciences) and the Institut elektrotekhniki (Institute of Electrical Engineering) of the Academy of Sciences of the Ukraine and convened in Kiyev October 14-20, 1958. The papers presented are concerned with high-quality automatic control systems designed on the basis of compensating for the effects of disturbances or maintaining the invariance of the quality to be regulated with respect to the disturbances acting on the system. The reports treat the physical and mathematical foundations of invariance in automatic control systems, they also consider methods for designing and calculating invariant systems and problems connected with specific cases of practical applications of compensation in various automatic systems. On the basis of these reports it was established by the Conference that, by utilization of the conditions of compensation and the principle of invariance, it is possible to produce automatic systems and various arrangements which are more perfect from the viewpoint of quality of the regulation and control process, stability, simplicity of construction, and reliability of operation. The following members of the Kiyev Seminar on Automatic Control are mentioned as organizers of the conference: A.I. Kukhtenko, A.G. Ivakhnenko, P.I. Chinayev. References accompany each article.

TSYPKIN, Ya.Z., doktor tekhn.nauk, otv.red.(Moskva); GAVRILOV, M.A., doktor
      tekhn.nauk, red.; DOLGOLENKO,,Yu.V., doktor.tekhn.nauk, red.(Leningrad);
      KOTEL'NIKOV, V.A., kand.tekhn.nauk, red.; LERNER, A.Ya., doktor
      tekhn.nauk, red.; MOROSANOV, I.S., red. (Moskva); POSPELOV, G.S.,
      doktor tekhn.nauk, red.; FEL'DBAUM, A.A., doktor tekhn.nauk, red.;
      KHRAMOY, A.V., kand.tekhn.nauk, red.; PODGOYETSKIY, M.L., red.izd-va;
      MARKOVICH, S.G., tekhn.red.

      [Theory and application of discrete automatic control systems] Teo-
      riia i primenenie diskretnykh avtomaticheskikh sistem; trudy kon-
      ferentsii. Moskva, Izd-vo Akad.nauk SSSR, 1960. 572 p.
                                          (MIRA 13:7)
      1. Konferentsiya po voprosam teorii i primeneniye diskretnykh avto-
      maticheskikh sistem. Moscow, 1958.
                       (Automatic control)

POSPELOV, G. S.

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PHASE I BOOK EXPLOITATION

SOV/3397
SOV/11-M-112

·Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze

Nekotoryye metody rascheta sistem avtomaticheskogo regulirovaniya i ikh elementov;
  sbornik statey (Some Methods of Calculating Automatic Control Systems and
  Their Components; Collection of Articles) Leningrad, Sudpromgiz, 1959. 123 p.
  (Series: Its: Trudy, vyp. 112) Errata slip inserted. 8,400 copies printed.

Scientific Ed.: B.N. Petrov; Ed. (Title page): B.N. Petrov, Corresponding Member
  USSR Academy of Sciences, Professor; Ed. (Inside book): V.S. Chichkanova;
  Tech. Ed.: N.V. Erastova.

PURPOSE: This collection of articles is intended for specialists in scientific
  research institutes and special design bureaus and plants engaged in problems
  of automatic regulation. It may also be useful to students and teachers in
  schools of higher education.

COVERAGE: This collection of articles presents original works in the field of
  analysis and synthesis of nonlinear systems of automatic regulation and of
  linear systems with variable parameters. Some problems of calculating indi-
  vidual components of automatic systems are also discussed. References are
  listed after most of the papers.

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POSPELOV, G.S.

Some Methods of Calculating (Cont.)   SOV/3397

TABLE OF CONTENTS:

The application of the harmonic balance method in the investigation of the pro-
    cess of natural oscillations may, in some marginal cases, yield only approxi-
    mate results. The author aims at finding a method for suppressing natural
    oscillations caused by spurious nonlinearities in seemingly "linear"
    systems. These he tries to compensate for by introducing auxiliary non-
    linearities and concludes that at least two nonlinear components are re-
    quired for solving the system stability problem.

Approximate methods of analyzing hunting processes in systems with one seg-
    mental-linear nonlinearity are based on the equivalent linearisation of
    nonlinearities. The author applies a more accurate method of adjustment.

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Some Methods of Calculating (Cont.)   SOV/3397

Sokolov, N.I., Candidate of Technical Sciences. Analytical Method of
    Approximate Calculation of Transients in Certain Nonlinear Systems
    of Automatic Regulation   27

The author presents a method of calculating transients in systems of
    automatic regulation containing nonlinear components with a con-
    tinuous static characteristic of the saturation type. The author
    claims that this method, compared with the methods developed by
    Ya. Z. Tsypkin and B.N. Naumov, gives a much smaller error, which
    increases integration interval and, consequently, reduces calcu-
    lation time. In order to apply the author's method, conditions
    permitting the separation of the nonlinear components, whose
    characteristics can be given in analytical or in graphical form,
    must be present.

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Some Methods of Calculating (Cont.)   SOV/3397

Voronkov, B.S., Candidate of Technical Sciences. Obtaining Optimal Pro-
    cesses in Certain Relay Regulation Systems   39

The author defines as "optimal" the shortest aperiodical transient pro-
    cess (at a given amplification factor of the relay component) without
    overcorrection and with zero residual irregularity. He investigates a re-
    lay regulation system effected by an external disturbance. The
    attempts to determine the auxiliary signal necessary for obtaining
    optimal conditions.

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Yemel'yanov, S.V., Candidate of Technical Sciences. Regulation of a
    Neutral Object by Using an Astatic Regulator With a Nonlinear Correction   50

The author discusses a method of regulating a neutral object by an
    astatic regulator with proportional velocity and nonlinear correc-
    tion, which permits obtaining a system stable in the large. The
    regulating process would be damped in the first amplitude and the
    regulation time minimal for given initial disturbances and given

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Some Methods of Calculating (Cont.)   SOV/3397

   constant equation coefficients of the object and of the regulator. Both
   the object and the regulator are described by equations of the first order.
   The author makes a qualitative investigation of such a system and reveals
   all possible kinds of movement occurring after arbitrary initial distur-
   bances. He establishes relationships between parameters which determine
   the dynamic indices of the system.

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Sokolov, N.I., Candidate of Technical Sciences. Approximate Grapho-Ana-
   lytical Method of Determining Amplitude-Phase Characteristics From
   Transient Functions   66

The author describes the method in which transient functions were obtained
   experimentally

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Some Methods of Calculating (Cont.)   SOV/3397

Mikhaylov, F.A., Candidate of Technical Sciences. Theory of Free Oscil-
    lations of Linear Systems With Variable Parameters   73

The author applies the theory proposed, in 1948, by T. Ważewski and later
    developed in the works given as references, in the analysis of free
    oscillations of linear systems of one individual class. In further
    development of the theory, a method is presented of establishing as
    many exact evaluations of parameters of free oscillations as is
    practical (in a finite time interval). The article is presented so
    that a prerequisite knowledge of works given as references is not
    necessary.

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Lebedev, A.A., Doctor of Technical Sciences. Motion Stability in the Final
    Time Interval   106

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AVAILABLE: Library of Congress

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POSPELOV, G.S., doktor tekhn.nauk

Suppression of self-oscillations by the use of additional
nonlinear elements. Trudy MAI no.112:5-17 '59.
(MIRA 13:7)

(Automatic control)

S/024/60/000/03/006/028
E140/E463

AUTHOR: Pospelov, G.S. (Moscow)

TITLE: Special Procedures for Improving the Quality of Control Systems q

ABSTRACT: The author intends to give a brief survey of certain
methods of improving the quality of control systems
without regard to their originality and without
pretending to give an exhaustive bibliography. The
following concepts are discussed:
1) Systems with different responses to the control and
perturbation signals;
2) The suppression of noise through special filters
without changing the dynamic properties of the system;
3) Eliminate overshoots where they are unavoidable by
virtue of the structure of the system;
4) The use of two sources of signal information with
differring noise spectra to extract a low-noise signal;
5) In non-linear systems with limited coordinates to
match the non-linear and linear processes and eliminate
possible "large-signal instability".

Card 1/4

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S/024/60/000/03/006/028
E140/E463

Special Procedures for Improving the Quality of Control Systems

When the input signal to a control system is slowly
varying and has high noise level the control system
should be narrow band; if at the same time the controlled
object is subject to strong rapid perturbations, the
system should be fast-acting and therefore wideband.
Conditional feedback systems (Ref 4) have been proposed
for the solution of this problem. With highly inertial
controlled objects, the presence of noise causes no
difficulty. However a high input noise level may
saturate the input circuits and destroy the regulation.
Noise filters, which do not alter the dynamic properties
of the system, at the same time cause a delay of the
control signal. It is therefore necessary to introduce
compensation in the form of a prediction filter which
reproduces the input signal to a certain precision. The
system input receives, therefore, a "pure" signal with
reduced noise and a slowly varying error reduced by the
prediction filter. The use of two sources of
information with different noise spectra may be
illustrated by the gyromagnetic compass where one source

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S/024/60/000/03/006/028
E140/E463

Special Procedures for Improving the Quality of Control Systems

is the coil of the magnetic compass, which gives the
true magnetic course with high-frequency noise caused
by vibration of the coil, while a second source is the
course gyroscope which gives the true course with a
slowly varying error due to the deviation of the
gyroscope. A further source of information in aircraft
are the radionavigation instruments which also have
high-frequency noise. The gyromagnetic information
usually gives the derivative while the radio navigation
instrument the required parameter itself. Using
servomechanisms with two inputs with linear filters,
mutual correction of the radio and gyromagnetic
information may be obtained. A similar system may be
used when the instruments employed are a variometer and
an accelerometer. An example of a system where it is
necessary to eliminate overshoot is an automatic pilot.
With an astatic (isodromic and integral) regulation
system overshoot will always occur. Overshoot may be
eliminated by an additional feedback with respect to the
initial conditions using a memory and computer system.

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Special Procedures for Improving the Quality of Control Systems

In systems with saturation, large-signal instability may
be eliminated by automatically altering the structure of
the system in the saturation zone. It is necessary to
include in such systems a computing mechanism for the
solution of certain logical conditions. There are
18 figures and 5 references, 4 of which are Soviet and
1 English.

SUBMITTED: December 11, 1959

Card 4/4

POSPELOV, G.S.

  Pulse systems of automatic control. Avtom. upr. i vych. tekh. no.3:
  111-187 '60.   (MIRA 13:11)
     (Automatic control)   (Pulse techiques (Electronics))

S/621/61/000/000/004/014
D234/D303

16.8000

AUTHOR: Pospelov, G.S.

TITLE: Some methods of improving the processes of regulation
              and control

SOURCE: Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy
              promyshlennosti. Primeneniye vychislitel'noy tekhniki
              dlya avtomatizatsii proizvodstva. Trudy soveshchaniye,
              provedennogo v oktyabre 1959 g. Ed. by V.V. Solodovni-
              kov. Moscow, Mashgiz, 1961, 80 - 96

TEXT: The author gives a detailed description (with diagrams of
the circuits and formulae of the transfer functions) of: 1) Systems
with different reaction to control actions and disturbing actions;
2) Suppression of disturbances in the input signal for the advanta-
ge of the input links of the system; 3) Use of two sources of in-
formation, for obtaining the actual value of the signal; 4) Compen-
sating the effect of delay of measuring devices on dynamical pro-
perties of the system; 5) Use of initial condition feedback in li-

Card 1/2

Some methods of improving the ...

S/621/61/000/000/004/014
D234/D303

near systems; 6) Use of initial condition feedback in non-linear
systems with coordinate restriction. There are 18 figures and 5 re-
ferences: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to
the English-language publication reads as follows: G. Lang and J.M.
Ham, Conditional Feedback Systems, A New Approach to Feedback Con-
trol, Application and Industry, July 1955.

Card 2/2

POSPELOV, G. S.

"Optimal Solutions in Controlling a Discrete System in Each Interval."

Presented at IFAC International Federation of Automatic Control Symposium
on Self Adjusting System Theory, Rome   26-28 Apr 62

KRASOVSKIY, Aleksandr Arkad'yevich; POSPELOV, Germogen Sergeyevich;
KOROLEV, N.A., red.; BUL'DYAYEV, N.A., tekhn. red.

[Principles of automatic control and engineering cybernetics]
Osnovy avtomatiki i tekhnicheskoi kibernetiki. Moskva, Gosenergo-
izdat, 1962. 599 p.   (MIRA 16:1)
       (Cybernetics)   (Automatic control)

POSPELOV, G. S.

"Realization of Optimum Programs in the Systems of Automatic Control."

Paper to be presented at the IFAC Congress, to be held in
Basel, Switzerland, 27 Aug to 4 Sep 63

AM4035367   BOOK EXPLOITATION   s/

Dobrolenskiy, YUriy Pavlovich; Ivanova, Valentina Ivanovna; Pospelov, Germogen
    Sergeyevich (Doctor of Technical Sciences, Professor)

Automation of guided missiles (Avtomatika upravlyayemy*kh snaryadov), Moscow,
    Oborongiz, 1963, 548 p. illus., biblio. Errata slip inserted. 13,000 copies
    printed. Textbook for technical institutes of higher learning.

TOPIC TAGS: guided missile, missile guidance

PURPOSE AND COVERAGE: The book is devoted to guided missile control. Problems of
automatic control of missiles of various classes are solved on the basis of the use
of the engineering methods of calculating linear and nonlinear dynamic systems that
have been developed in the theory of automatic regulation. The possible principles
of receiving guidance signals in various methods of guidance are considered. The
fundamentals of the dynamics of missile guidance and typical guidance systems are
cited. Analytical expressions for calculation and determination of guidance error
are given. The book is a textbook for students in higher technical educational ins-
titutions; it can also be useful to engineers and technicians in automatic missile
control.

Card 1/3

AM4035367

TABLE OF CONTENTS [abridged]:

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AM4035367

    accuracy of firing — 525
Bibliography — 543

SUB CODE: OM   SUBMITTED: 16Oct63   NR REF SOV: 042

OTHER: 011   DATE ACQ: 12Mar64

Card 3/3

POSPELOV, G.S. (Moskva); TEYMAN, A.I. (Moskva)

Automation of control processes in the development of
large systems or complex projects. Izv. AN SSSR. Tekh. kib.
no.4:60-79 Jl-Ag '63.   (MIRA 16:11)

POSPELOV, G.S. (Moskva); BOKAREV, V.A. (Moskva)

Methodological problems of engineering cybernetics. Izv. AN SSSR.
Tekh. kib. no.3:3-13 Je '64.   (MIRA 17:10)

L 2635-66   EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)   GS
ACCESSION NR: AT5008640   UR/0000/64/000/000/0093/0104

AUTHOR: Pospelov, G. S.

TITLE: Principles of construction of some types of self-regulating automatic control systems

SOURCE: International Federation of Automatic Control. International Congress. 2d, Rome, 1962. Samonastraivayushchiyesya avtomaticheskiye sistemy (Self-adaptive automatic control systems); trudy simpoziuma. Moscow, Izd-vo Nauka, 1964, 93-104

TOPIC TAGS: automatic control, servomechanism system, numeric integration

ABSTRACT: This paper divides systems of automatic control or regulation into two large classes: the continuous operation system (tracking servomechanisms, motor speed controllers) and one-act systems, e. g. hoisting apparatus controllers. The processes can be described by ordinary differential equations with time varying coefficients in the standard form

$$\frac{dx_i}{dt} = f_i(x_1, \ldots, x_n, u_1, \ldots, u_r, t). \qquad (1)$$

where x is the state variable of order n and u is the input variable of order r. The author considers the transient and steady state cases separately when the er-
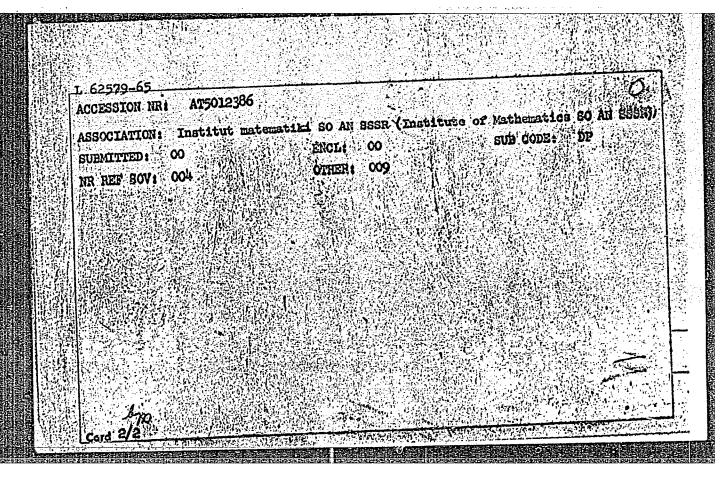
Card 1/3

L 2635-66

ACCESSION NR: AT5008640

ror of reproduction is always either larger or smaller than some value Δ. The typical processes of continuous operations included in the latter case, while one-act systems usually working with the high transient error term fall under the former, The discrete differential form of (1) is used since the approach is simple and gives sufficiently accurate results by numerical integration. As an application of this method the author considers both first and second order differential equations with time varying coefficients. Consider the system

$$\dot{x} + a_1(t)\,\psi(x) = u + \varphi(t), \qquad (2)$$

where $a_1(t)$, $\phi(t)$ are unspecified and the form of $\psi(x)$ is not determined. It is required that the object state satisfy

$$\dot{x}_{pr} + a_1{}^* x_{pr} = 0, \quad a_1{}^* = const. \qquad (3)$$

As a second example he solves the second order system for minimum time. The system equation is

$$\ddot{x} + a_1(t)\,\dot{x} + a_0(t)\,x = u + \varphi(t) \quad \text{and} \quad u \leqslant u_m. \qquad (4)$$

with $a_0(t)$, $a_1(t)$, $\phi(t)$ indeterminate. Finally it is pointed out that a continuous form solution of (4) is possible, and the control system structure is obtained where $\ddot{x}$, $\dot{x}$, and x are assumed measurable, and that the regulator works so as to effect some programmed motion of the acceleration $\ddot{x}$. Orig. art. has: 4 figures, 18 formulas.

Card 2/3

L 2635-66
ACCESSION NR: AT5008640

ASSOCIATION: none

SUBMITTED: 26Nov64   ENCL: 00   SUB CODE: IE

NO REF SOV: 006   OTHER: 003

Card 3/3

L 62579-65
ACCESSION NR: AT5012386   UR/3134/64/000/011/0055/0070

AUTHOR: Pospelov, G. S.; Teyman, A. I.

TITLE: Method of logical diagrams for the planning of the development of a complex system

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut matematiki. Vychislitel'nyye sistemy, no. 11, 1964, 55-70

TOPIC TAGS: logical network, project planning, system planning, operations research, operation scheduling, generalized network

ABSTRACT: This article supplements and expands an earlier work by the authors (Izvestiya AN SSSR, Tekhnicheskaya kibernetika no. 4, 1963), devoted to a detailed exposition of some mathematical methods of planning the development of complex systems (PERT methods). The present article is a review and deals predominantly with the linear diagram of the plan and with a random network, and covers the following topics: 1. Logical network (network diagram) and time characteristics of a plan. 2. Linear diagram of a plan. 3. Minimization of the cost of development of a set of operations for a specified time duration. 4. Random networks. The original papers dealing with the various topics are referred to. Orig. art. has: 7 figures, 17 formulas, and 1 table.

Card 1/2

L 62579-65

ACCESSION NR: AT5012386

ASSOCIATION: Institut matematiki SO AN SSSR (Institute of Mathematics SO AN SSSR)

SUBMITTED: 00   ENCL: 00   SUB CODE: DP

NR REF SOV: 004   OTHER: 009

Card 2/2

L 32565-66   EWT(d)/FBD/FSS-2/EEC(k)-2/EWA(d)/T-2/EWP(1)   IJP(c)
ACCESSION NR: AT5008640   GS/BC/WR   UR/0000/64/000/000/0093/0104

AUTHOR: Pospelov, G. S.

TITLE: Principles of construction of some types of self-regulating automatic control systems

SOURCE: International Federation of Automatic Control. International Congress. 2d, Rome, 1962. Samonastraivayushchiyesya avtomaticheskiye sistemy (Self-adaptive automatic control systems): trudy simpoziuma. Moscow, Izd-vo Nauka, 1964, 93-104

TOPIC TAGS: automatic control, servomechanism system, numeric integration

ABSTRACT: This paper divides systems of automatic control or regulation into two large classes: the continuous operation system (tracking servomechanisms, motor speed controllers) and one-act systems, e. g. hoisting apparatus controllers. The processes can be described by ordinary differential equations with time varying coefficients in the standard form

$$\frac{dx_i}{dt} = f_i\,(x_1, \ldots, x_n, u_1, \ldots, u_r, t). \qquad (1)$$

where x is the state variable of order n and u is the input variable of order r. The author considers the transient and steady state cases separately when the er-

Card 1/3   0902   1526-28

L 32565-66

ACCESSION NR: AT5008640

ror of reproduction is always either larger or smaller than some value Δ. The ty-pical processes of continuous operations included in the latter case, while one-act systems usually working with the high transient error term fall under the former. The discrete differential form of (1) is used since the approach is simple and gives sufficiently accurate results by numerical integration. As an application of this method the author considers both first and second order differential equations with time varying coefficients. Consider the system   (2)

$$\ddot{x} + a_1(t)\psi(x) = u + \varphi(t),$$

where $a_1(t)$, $\phi(t)$ are unspecified and the form of $\psi(x)$ is not determined. It is re-quired that the object state satisfy $x_{pr} + a_1^* x_{pr} = 0, \quad a_1^* = \text{const}$ (3)

(pr = program value)

As a second example he solves the second order system for minimum time. The system equation is $\ddot{x} + a_1(t)\dot{x} + a_0(t)x = u + \varphi(t) \mid \quad u \leqslant u_m.$ (4)

with $a_0(t)$, $a_1(t)$, $\phi(t)$ indeterminate. Finally it is pointed out that a continuous form solution of (4) is possible, and the control system structure is obtained where $\ddot{x}$, $\dot{x}$, and x are assumed measurable, and that the regulator works so as to ef-fect some programmed motion of the acceleration $\ddot{x}$. Orig. art. has: 4 figures, 18 formulas.

Card 2/3

L 32565-66
ACCESSION NR: AT5008640

ASSOCIATION: none

SUBMITTED: 26Nov64

NO REF SOV: 006

ENCL: 00

OTHER: 003

SUB CODE: MA, DP

Card 3/3

L 63607-65   EWT(d)/EWP(1)   Po-4/Pq-4/Pg-4/Pk-4/Pl-4   IJP(c)   BC

UR/0280/65/000/003/0169/0180

ACCESSION NR: AP5016980

AUTHOR: Pospelov, G. S. (Moscow)

TITLE: Dynamic characteristics of relay servo systems. I

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 3, 1965, 169-180

TOPIC TAGS: relay servo system, servo system dynamics, eigenoscillation operation, transfer function

ABSTRACT: Relay servo systems often operate under self-oscillating conditions (the eigenfrequency being much higher than the input signal frequency). The problem is then to find the transfer function of the relay servo for a slowly varying input signal, i.e., for signals whose frequency band is very much below the operating eigenfrequency. These transfer or reproduction properties of relay servo devices are determined from first-approximation finite difference equations. In turn, these equations are obtained from original nonlinear equations through the introduction of finite differences and they represent, within small regions, equations of the periodic solution of the nonlinear equations. It is shown that for slowly varying input signals, the reproduction properties of the relay system are equivalent, in the first approximation, to a pulsed servo system

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L-63607-65

ACCESSION NR: AP5016980

with a repetition period equal to the eigenoscillation frequency. Orig. art.
has: 74 formulas and 6 figures.

ASSOCIATION: none

SUBMITTED: 08Mar65   ENCL: 00   SUB CODE: IE

NO REF SOV: 005   OTHER: 000

Card 2/2

ACC NR: AP6024358   SOURCE CODE: 0280/66/000/002/0003/0010

AUTHOR: Petrov, B. N.(Academician).; Pospelov, G. S. (Doctor of technical sciences, Professor)

ORG: none

TITLE: Developmental paths of large control systems

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1966, 3-10

TOPIC TAGS: systems engineering, control theory, economic planning, operations research, information theory, economic development

ABSTRACT: Large control systems (LCS) are construed as a hierarchically organized complex whole of controlling and controlled systems interconnected by information channels; the controlling system may be either a purely automatic data processing system or a human collective specially organized for purposes of control and decision-taking. LCS may exist as systems for the control of individual enterprises, transport, branches of the national economy, entire national economy, and so on. A distinguishing feature of LCS is the use of computers to optimize decisions and convert and process the flows of information. LCS are of special interest to the optimal planning and management of the national economy, and the paths of

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ACC NR: AP6024368

their development which deserve special attention are: systems engineering and systems theory; prediction and planning on the basis of mathematical models of development; decision theory; theory of the organization of control systems. The Taylor control theory was considerably refined in the USSR during the 1920s and currently a great deal of interesting research into the applications of the "Taylor" line in control science to the building of socialism is being done in Poland (cf. Starosciak, E. Elementy nauki ob upravlenii. Perevod c pol'skogo. "Progress, " 1965). It would be only natural to combine the Taylor line with cybernetics, operations research and systems engineering into a unified control science.

SUB CODE: 06, 05, 09/ SUBM DATE: none

Card 2/2

ACC NR: AP6024376   SOURCE CODE: UR/0280/66/000/002/0180/0188

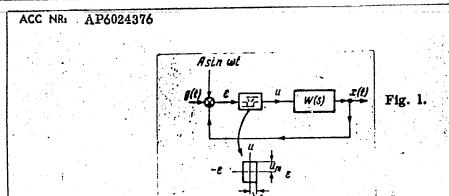AUTHOR: Pospelov, G. S. (Moscow)

ORG: none

TITLE: Dynamic characteristics of relay servosystems. II

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1966, 180-188

TOPIC TAGS: servosystem, signal frequency, linear system, difference equation

ABSTRACT: If the input of a relay servosystem (Fig. 1) receives, in addition to the input signal, an external synchronizing periodic signal which may be sine-wave (A sin ωt) or of some other waveform (A is the amplitude of the external signal; $\omega = \pi/\theta$ is its circular frequency and θ is the half-period of oscillations) and if ω exceeds the synchronized system's natural oscillation frequency, the system's response to slowly varying input oscillations will be near--linear. In this connection, the author examines the transfer functions with respect to such slowly varying signals at the inputs of relay servosystems "linearized" by high-frequency external oscillations. It is shown, on deriving nonlinear finite-difference equations, that the system considered may exist in synchronous regimes only in the presence of phases β_1 and β_3 (external

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ACC NR₁ AP6024376

Fig. 1.

-oscillation phases at the beginning of the 1st and 3rd stages). A matrix method is proposed for determining the transfer functions applicable to any amplitude A of the linearizing external oscillations for systems in a steady-state synchronous regime. These transfer functions may be utilized to evaluate the errors in the values of the transfer functions derived on the basis of the so-called theory of vibrational linearization (Krasovskiy, A. A.; Pospelov, G. S. Osnovy avtomatiki i tekhnicheskoy kibernetiki. Gosenergoizdat, 1962). It is pointed out that errors of this kind increase with decrease in the amplitude A and frequency ω of the linearizing oscillations. Orig. art. has: 1 figure, 53 formulas.

SUB CODE: 12, 09/ SUBM DATE: 30Sep65/ ORIG REF: 002

Card · 2/2

POSPELOV, G.N., inzh.; NIKOLAYEV, R.L., inzh.

Motor car with hydromechanical transmission. Torf. prom.
38 no.6:15-17 '61.   (MIRA 14:9)

1. Torfopredpriyatiye imeni Klassona (for Pospelov). 2.
Vsesoyuznyy nauchno-issledovatel'skiy institut stroitel'nogo
i dorozhnogo mashinostroyeniya (for Nikolayev).
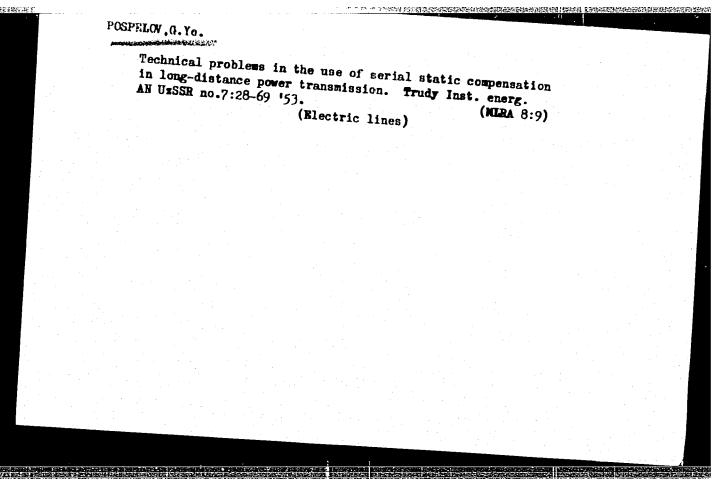   (Railroad motor cars)

POSPELOV, G. Ye.

USSR/Electricity - Transmission, Power   Feb 52
                    Compensation

"The Maximum Possible Compensation of Transmission
Parameters," G. Ye. Pospelov, Cand Tech Sci,
Cen Asiatic Polytech Inst

"Elektrichestvo" No 2, pp 12-17

Considers the characteristics of a power trans-
mission line in which the inductance and capacitance
is completely compensated. Established the deg of
compensation of inductance and capacitance which
is efficient. Submitted 15 Jun 51.

                                                208T22

POSPELOV, G. YE.

USSR/Electricity - Power Transmission   Jun 53

"Increasing the Dynamic Stability of Long-Distance Electric Power Transmission Lines," G.Ye. Pospelov, Cand Tech Sci, Central Asia Polytech Inst

Elektrichestvo, No 6, pp 14-17

Exams two methods for raising dynamic stability of long-distance power transmission, which becomes important at approx 400 km transmission distance. Shows that both methods permit finding max transmittable power from dynamic stability. (Editors,

268T52

in note following, state author's procedure, which is highly simplified, applies to systems of infinitely high power, not to systems of stations with finite power.) Submitted 6 Aug 53.

268T52

POSPELOV, G. Ye.

Technical problems in the use of serial static compensation
in long-distance power transmission. Trudy Inst. energ.
AN UzSSR no.7:28-69 '53.

(Electric lines)   (MIRA 8:9)

POSPELOV, G.Ye.

On the theory of long-distance alternating-current power
transmission. Trudy Inst.energ.AN Uz.SSR no.8:43-61 '55.

(MLRA 9:12)

(Electric power distribution)

POSPELOV, G.Ye.

Increasing the output capacity of a.c. power transmission with
compensating equipment. Trudy Inst.energ.AN Uz.SSR no.10:87-102 '57.

(Electric current rectifiers)   (MIRA 10:11)

L 04077-67   EWT(L)

ACC NR: AP6025424 (A)   SOURCE CODE: UR/0143/66/000/007/0107/0112

AUTHOR: Pospelov, G. Ye. (Doctor of technical sciences, Professor); Chervinskiy, L. L. (Engineer).

ORG: Belorusskiy Polytechnic Institute (Belorusskiy politekhnicheskiy institut)

TITLE: Investigation of the maximum efficiency of electric transmission lines using a TsVM computer

TOPIC TAGS: electric power transmission, computer application

ABSTRACT: The maximum efficiency of an electric transmission line is determined from the equation

$$\frac{\partial r_1}{\partial p_2} = 0 \text{ и } \frac{\partial r_1}{\partial q_2} = 0 \qquad (1)$$

as the highest value of the efficiency with a change in the load over sufficiently wide limits and with a constant voltage at one end of the line. The article gives a block diagram of the algorithm used for computer calculation. A table lists the characteristics of electric transmission lines fabricated from various standard types of wire.

Card 1/2

UDC: 621.315.1.017:518.5

L 04077-67

ACC NR: AP6025424

Based on the calculated results, a figure shows the dependence of the
specific powers and the power coefficients corresponding to a maximum
efficiency on the length, for different lines (taking the corona effect
into account). The calculations refer primarily to airborne lines with
a length from 500 to 1500 kilometers. Orig. art. has: 5 formulas,
4 figures and 1 table.

SUB CODE: 10 , 09/ SUBM DATE: 17Jan66/ ORIG REF: 001

kh

Card 2/2

POSPELOV, G.Ye., doktor tekhn. nauk, prof.; FEDIN, V.G., inzh.

Consideration of the static characteristics of the load in the
selection of compensating devices for voltage regulation in
power distribution networks. Izv. vys. ucheb. zav.; energ. 9
no.1:9-14 Ja '66.
(MIRA 19:1)

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedroy
elektricheskikh sistem i setey. Submitted January 5, 1965.

POSHELOV, G.Ye., doktor tekhn. nauk, prof.

Principal trends in the development of electric power
distribution networks. Izv. vys. ucheb. zav.; energ. 8
no.11:113-115 N '65.
(MIRA 18:11)

1. Belorusskiy politekhnicheskiy institut.

POSPELOV, G.Ye., doktor tekhn.nauk, prof.; RUTSKIY, A.I., prof.; SLEPYAN,
Ia.Yu., kand.tekhn.nauk, dotsent

Review of V.A.Venikov's textbook "Electromechanical transients
in electrical systems". Izv.vys.ucheb.zav.; energ. 8 no.4:105-
109 Ap '65.   (MIRA 18:4)

1. Belorusskiy politekhnicheskiy institut.

DENISENKO, G.I., kand. tekhn. nauk (L'vov); POSPELOV, G.Ye., doktor
tekhn. nauk, prof. (Minsk); GERSHENGORN, A.I., inzh. (Moskva)

Transmission of electric power at great distances. Prospects
for stepping-up the voltages of overhead power transmission
lines. Elektrichestvo no.2:85-89 F '64.   (MIRA 17:3)

POSPELOV, G.Ye., doktor tekhn. nauk, prof.; FEDOROVA, I.A., kand.
tekhn. nauk, dotsent

Change in the cost of electric power transmission with
distance increase. Izv. vys. ucheb. zav.; energ. 7 no.2:
9-17 F '64.   (MIRA 17:3)

1. Belorusskiy politekhnicheskiy institut. Predstavlena
kafedroy elektricheskikh sistem i setey.

POSPELOV, G. Ye.

Determination of the economic parameters of an a.c. power
transmission system. Trudy Transp. energ. inst. Sib. otd. AN
SSSR no.14:141-149 '62.   (MIRA 16:9)
            (Electric power distribution)

POSPELOV, G. Ye.; FEDOROVA, I. A.

Variable conditions for the selection of parameters of
bridging reactors for remote a.c. transmissions. Izv. AN
Uz.SSR. Ser. tekh. nauk 6 no.5:13-22 '61.

(MIRA 15:10)

1. Tashkentskiy politekhnicheskiy institut.

(Electric lines)

POSPELOV, G.Ye., doktor tekhn.nauk

Electric networks,with lumped and distributed parameters. Izv. vys.
ucheb. zav.; energ 5 no.9:9-12 S '62.   (MIRA 15:10)

1. Tashkentskiy politekhnicheskiy institut. Predstavlena kafedroy
elektricheskikh sistem.
                    (Electric networks)

FEDOROVA, I.A., kand.tekhn.nauk, dotsent; POSPELOV, G.Ye., doktor, tekhn.
    nauk

    Problem concerning the calculation of steady-state conditions in
    electrical networks with condensers. Izv.vys.ucheb.zav.; energ.
    5 no.11:121-122 N '62.   (MIRA 15:12)

    1. Tashkentskiy politekhnicheskiy institut. Predstavlena kafedroy
    elektricheskikh sistem.
                             (Electric networks)

POSPELOV, G.Ye., kand.tekhn.nauk

Methods for technical and cost calculations in power engineering.
Elektrichestvo no.9:85-92 S '60. (MIRA 13:10)

1. Sredneaziatskiy polotekhnicheskiy institut.
(Electric engineering--Equipment and supplies)

POSPELOV, G.Ye., kand.tekhn.nauk, dotsent

Basic equations and calculation relations of normal operating
conditions in a.c. transmission systems with intermittent taps.
Izv. vys. ucheb. zav.; energ. 3 no. 9:9-15 S '60.   (MIRA 13:9)

1. Sredneaziatskiy politekhnicheskiy institut.
            (Electric power distribution)

POSPELOV, G.Ye.

Some economic factors in the transmission of alternating
current. Izv.AN Uz.SSR.Ser.tekh.nauk no.4:13-21 '60.
                                        (MIRA 13:8)

1. Sredneasiatskiy politekhnicheskiy institut.
        (Electric power distribution)

POSPELOV, G. Ye, Dr. Tech Sci — (diss) "Technico-Economic Research

of the Transferal Capacity of Long Range Electric Transmission of

Aher Alternating Current in Connection with the Development of the

Electrical Systems of the Central Asia Republics," Moscow, 1960, 43 pp,

250 copies (Moscow Power Engineering Institute) (KL, 47/60, 101)

SOV/112-59-5-8809

8(6)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 56 (USSR)

AUTHOR: Pospelov, G. Ye.

TITLE: Some Points in the Power and Economic Analysis of an Electric
Transmission System

PERIODICAL: Tr. In-ta energ. i avtomatiki AS Uzbekskaya SSR, 1958, Nr 11,
pp 157-177

ABSTRACT: Existing methods of economic transmission-line designs are criticized.
The cost of electric-energy transmission must be taken as a fundamental
economic factor. This cost includes depreciation charges that cover the cost
of money invested, running costs including energy losses, personnel wages,
the social cost of the product that is used for public expenses (Translator's
note: The Russian original makes no sense). In choosing the electric-
transmission parameters, energy losses should be evaluated on the basis of
the average industrial tariff. Formulae are developed for determining
economic wire size and current density. Bibliography: 30 items.

I.M.R.

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POSPELOV, G.Ye., kand.tekhn.nauk, dots.

Efficiency of compensating devices in long-distance a.c. transmission
lines. Trudy MEI no.26:137-146 '57.   (MIRA 11:9)

1.Doktorant kafedry "Elektricheskiye seti i sistemy."
              (Electric lines)

POSPELOV, G.Ye.

8(3)   PHASE I BOOK EXPLOITATION   SOV/1476

p.+,7

Akademiya nauk Uzbekskoy SSR. Institut energetiki i avtomatiki

Voprosy peredachi elektroenergii na dal'niye rasstoyaniya (Problems
   in Long-distance Transmission of Electric Power) Tashkent, Izd-vo
   AN Uzbekskoy SSR, 1958. 176 p. (Series: Its: Trudy, vyp. 11)
   650 copies printed.

Resp. Ed.: Kh.F. Fazylov, Academician, UzSSR Academy of Sciences;
   Ed. of Publishing House: N.A. Romanika; Tech. Ed.: Z.P. Gor'kovaya.

PURPOSE: The book is intended for personnel of scientific research
   institutes and for engineers and technicians of industrial design
   organizations.

COVERAGE: This collection contains five articles concerning capaci-
   tive self-excitation of synchronous and induction machines and methods
   of calculating the limits of self-excitation. An analysis is pre-
   sented of some problems of normal and emergency operating condi-
   tions of long electric transmission lines. References appear af-
   ter each article.

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Problems in Long-distance (Cont.)   SOV/1476

TABLE OF CONTENTS:

The author selected for discussion only the simplest cases of
capacitive self-excitation (as an undesirable phenomenon),
namely, when the stator circuit of a three-phase machine is
entirely symmetrical, has constant parameters, and has in
each phase an identical capacitance connected in series.
Other cases are mentioned only superficially. The author
discusses critically the various points of view concerning
the mechanism and conditions under which self-excitation
occurs as presented in the references to his article. He
concludes that the great number varieties of capacitive
self-excitation and their classification can be related to
the physical nature of electromagnetic torque associated
with the idea of rotating magnetic fields. The author dis-
cusses the two best known types of electromagnetic moments:
the reactive and the asynchronous moments. The first of these

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is the basis for self-excitation which the author calls "re-
active-synchronous." The second is the basis for asynchronous
self-excitation. The author proceeds to a study of two cases of
capacitive self-excitation: 1) in the simplest case of an induction
machine and 2) in a generator with salient poles, with a longitudi-
nal excitation winding and no damping coils on the rotor. The author
concludes with a short review of methods of combating underirable
self-excitation and finds that there is no universal method which
is at the same time effective and economical. There are 19 references,
of which 18 are Soviet (including 2 translations), and 1 English.
The article contains 9 diagrams.

Shchedrin, N.N., Corresponding Member, Academy of Sciences, Uzbek SSR.
  Some Methods of Calculating the Limits of Self-excitation of Induc-
  tion and Synchronous Machines   47

  The author is of the opinion that experimental methods of deter-
  mining the limits of self-excitation are difficult and there is no
  possibility of obtaining operational data from existing power.systems.
  The development of sufficiently simple and exact methods of calcula-
  ting these limits is therefore important for the design of certain elec-
  tric power systems. In practice, the problem is reduced to finding
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Problems in Long-distance (Cont.)   SOV/1476

the initial and terminal values of capacitance between which lies
the self-excitation zone. The terminal value, which corresponds
to reactive-synchronous self-excitation, is easily determined from
the characteristic equation of the machine. The article is devoted
to finding the initial value, which corresponds to asynchronous self-
excitation. The author determines the number of initial parameters,
investigates the characteristic equations and finds the root values
of these. For unsymmetrical types of machines, the author introduces
approximate methods based on simplified equivalent circuits. There
is one appendix, 12 diagrams and 7 Soviet references (including 1
translation).

Pospelov, G.Ye. Efficiency of Electric Transmission and its Depen-
    dency on the Distribution of Compensators   79

The author investigates the effect of the distribution of line-
drop compensators along a transmission line on the losses of active
power and on the efficiency of electric transmission. Energy losses
over a period of a year are of decisive importance; however, the author
considers it indispensable to study the effect of these losses with load changes throughout a

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Problems in Long-distance (Cont.)   SOV/1476

wide range, corresponding to maximum and minimum values. Commenting on the works presented in the references, the author claims that they discuss only the maximum conditions or use formulas inconvenient for calculation. Besides, the conditions under which maximum efficiency is obtained are not clearly presented. The author attempts to clarify all these problems and submits formulas for determining losses of active power and efficiency of transmission. He finds that associated with maximum efficiency are comparatively small active powers, low power factors at the end of the line, and voltage differentials not exceeding 10 per cent. The location of compensators may affect the efficiency of transmission by 2 to 3 per cent for lines 900 km long. There are 23 diagrams and 8 Soviet references (including 1 translation).

Grekhov, A.V. Increasing the Dynamic Stability of Electric
    Systems by the Inclusion of Load Resistances   127

The article is a condensation of the author's Candidate thesis, which he prepared under the supervision of Academecian Kh.F. Fazylov, Academy of Sciences, Uzbek SSR. The author enumerates
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Problems in Long-distance (Cont.)   SOV/1476

several accepted methods of increasing the dynamic stability
of long electric power transmission lines. Most of these
methods require the introduction of complex and costly systems
of automatic control. The author discusses a method of elec-
tric braking of generators, which he considers to be most ef-
ficient. Braking is achieved by momentary automatic switching-
in of load resistances. The author compares the various types
of load resistances and the methods of switching them into the
generator circuit. He selects the method of parallel switching
of active load resistances according to the diagram in Fig. 1.
Switching takes place almost simultaneously with the occurrence
of a short in the system and, according to the author, it pro-
vides electric braking of the generator during the period of
maximum excess of power. The method is said to be simple and
economical as well as efficient. The article analyzes several
variant methods of parallel load switching as employed in the
Kuybyshev - Moscow electric power transmission line. The author
makes analytical calculations for various operating conditions.
There are 15 diagrams and 5 Soviet references.

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Problems in Long-distance (Cont.)   SOV/1476

Pospelov, G.Ye. Certain Assumptions of an Economic Analysis of
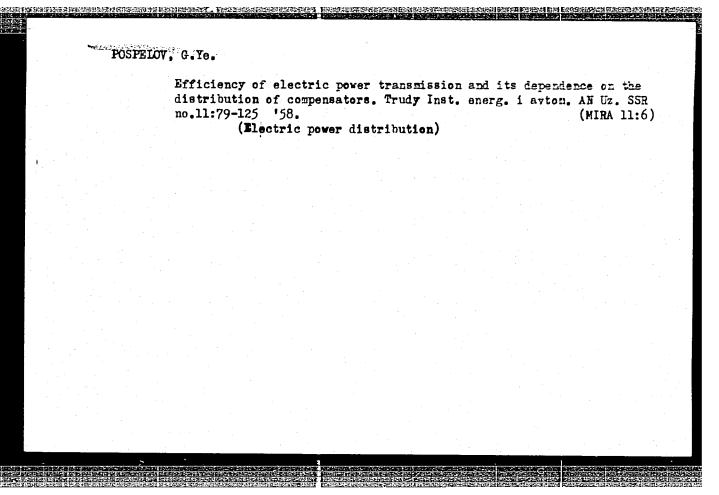 Electric Power Transmission   157

  The author attempts to determine appropriate technical solutions
  which would ensure the desired economy of operation of long-dis-
  tance electric power transmission. He bases his economic analy-
  sis on Marxist-Leninist teachings and discusses a series of ar-
  ticles which appeared in the Soviet periodicals during the period
  1934 to 1956. There are 30 Soviet references.

AVAILABLE: Library of Congress

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                                          4-16-59

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POSPELOV, G. Ye.

Relationship between the carrying capacity of a 2000 km. electric
power line and the parameters of the compensating devices. Nauch.
dokl. vys. shkoly; energ. no.2:5-10 '58.   (MIRA 11:11)
                    (Electric power distribution)

POSPELOV, G.Ye.

Efficiency of electric power transmission and its dependence on the distribution of compensators. Trudy Inst. energ. i avtom. AN Uz. SSR no.11:79-125 '58.   (MIRA 11:6)
          (Electric power distribution)

POSPELOV, G.Ye.

Certain aspects in analyzing the power and economic factors in electric power distribution. Trudy Inst. energ. i avtom. AN Uz.
SSR no.11:157-177 '58.   (MIRA 11:6)
                        (Electric power distribution)

FEDOROVA, I.A., kand.tekhn.nauk, dotsent; POSPELEV, G.Ye., doktor tekhn.
nauk, prof.

Some thoughts on the construction and outline of a course in
"Theoretical principles of electrical engineering." Elektriches-
tvo no.10:82-83-0 '63.   (MIRA 16:11)

1. Belorusskiy politekhnicheskiy institut.

YALEVSKIY, D.; POSPELOV, I.; KUZNETSOV, A.

What kind of daily assignment organization? Answering S.Ageev..
Mast.ugl. 9 no.7:7-8 Jl '60.   (MIRA 13:7)

1. Nachal'nik proizvodstvennogo otdela kombinata Kuzbassugol'.
       (Mine management)
       (Ageev, S.)

POSPELOV, I.

Organizing radio communications on the Kuybyshev Reservoir.
Rech.transp. 19:41-42 Jl '60.   (MIRA 13:8)

1. Nachal'nik sluzhby svyazi Volzhskogo ob"yedinennogo
parokhodstva.
      (Kuybyshev Reservoir--Radio in navigation)